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Sequence Listing was accepted.

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Reviewer: Durreshwar Anjum

Timestamp: [year=2008; month=11; day=12; hr=14; min=10; sec=53; ms=629;
]

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Application No: 10589381 Version No: 2.0

Input Set:

Output Set:

Started: 2008-10-20 12:44:09.709
Finished: 2008-10-20 12:44:11.266
Elapsed: 0 hr(s) 0 min(s) 1 sec(s) 557 ms
Total Warnings: 20
Total Errors: 0
No. of SeqIDs Defined: 20
Actual SeqID Count: 20

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 402	Undefined organism found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 402	Undefined organism found in <213> in SEQ ID (7)
W 402	Undefined organism found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
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W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)

SEQUENCE LISTING

<110> Anderson, Annaliesa S.
Montgomery, Donna L.

<120> POLYPEPTIDES FOR INDUCING A PROTECTIVE
IMMUNE RESPONSE AGAINST STAPHYLOCOCCUS AUREUS

<130> 21490YP

<140> 10589381
<141> 2006-08-15

<150> PCT/US2005/004431
<151> 2005-02-14

<150> 60/545,447
<151> 2004-02-18

<160> 20

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 260
<212> PRT
<213> Artificial Sequence

<220>

<223> truncated derivative of sai-1

<400> 1
Met Gly Thr Gln Val Ser Gln Ala Thr Ser Gln Pro Ile Asn Phe Gln
1 5 10 15
Val Gln Lys Asp Gly Ser Ser Glu Lys Ser His Met Asp Asp Tyr Met
20 25 30
Gln His Pro Gly Lys Val Ile Lys Gln Asn Asn Lys Tyr Tyr Phe Gln
35 40 45
Thr Val Leu Asn Asn Ala Ser Phe Trp Lys Glu Tyr Lys Phe Tyr Asn
50 55 60
Ala Asn Asn Gln Glu Leu Ala Thr Thr Val Val Asn Asp Asn Lys Lys
65 70 75 80
Ala Asp Thr Arg Thr Ile Asn Val Ala Val Glu Pro Gly Tyr Lys Ser
85 90 95
Leu Thr Thr Lys Val His Ile Val Val Pro Gln Ile Asn Tyr Asn His
100 105 110
Arg Tyr Thr Thr His Leu Glu Phe Glu Lys Ala Ile Pro Thr Leu Ala
115 120 125
Asp Ala Ala Lys Pro Asn Asn Val Lys Pro Val Gln Pro Lys Pro Ala
130 135 140
Gln Pro Lys Thr Pro Thr Glu Gln Thr Lys Pro Val Gln Pro Lys Val
145 150 155 160
Glu Lys Val Lys Pro Thr Val Thr Thr Ser Lys Val Glu Asp Asn
165 170 175

His Ser Thr Lys Val Val Ser Thr Asp Thr Thr Lys Asp Gln Thr Lys
180 185 190
Thr Gln Thr Ala His Thr Val Lys Thr Ala Gln Thr Ala Gln Glu Gln
195 200 205
Asn Lys Val Gln Thr Pro Val Lys Asp Val Ala Thr Ala Lys Ser Glu
210 215 220
Ser Asn Asn Gln Ala Val Ser Asp Asn Lys Ser Gln Gln Thr Asn Lys
225 230 235 240
Val Thr Lys His Asn Glu Thr Pro Lys Gln Ala Ser Lys Ala Lys Glu
245 250 255
Leu Pro Lys Thr
260

<210> 2
<211> 264
<212> PRT
<213> S. aureus

<220>

<400> 2
Met Gly Thr Gln Val Ser Gln Ala Thr Ser Gln Pro Ile Asn Phe Gln
1 5 10 15
Val Gln Lys Asp Gly Ser Ser Glu Lys Ser His Met Asp Asp Tyr Met
20 25 30
Gln His Pro Gly Lys Val Ile Lys Gln Asn Asn Lys Tyr Tyr Phe Gln
35 40 45
Ala Val Leu Asn Asn Ala Ser Phe Trp Lys Glu Tyr Lys Phe Tyr Asn
50 55 60
Ala Asn Asn Gln Glu Leu Ala Thr Thr Val Val Asn Asp Asp Lys Lys
65 70 75 80
Ala Asp Thr Arg Thr Ile Asn Val Ala Val Glu Pro Gly Tyr Lys Ser
85 90 95
Leu Thr Thr Lys Val His Ile Val Val Pro Gln Ile Asn Tyr Asn His
100 105 110
Arg Tyr Thr Thr His Leu Glu Phe Glu Lys Ala Ile Pro Thr Leu Ala
115 120 125
Asp Ala Ala Lys Pro Asn Asn Val Lys Pro Val Gln Pro Lys Pro Ala
130 135 140
Gln Pro Lys Thr Pro Thr Glu Gln Thr Lys Pro Val Gln Pro Lys Val
145 150 155 160
Glu Lys Val Lys Pro Ala Val Thr Ala Pro Ser Lys Asn Glu Asn Arg
165 170 175
Gln Thr Thr Lys Val Val Ser Ser Glu Ala Thr Lys Asp Gln Ser Gln
180 185 190
Thr Gln Ser Ala Arg Thr Val Lys Thr Thr Gln Thr Ala Gln Asp Gln
195 200 205
Asn Lys Val Gln Thr Pro Val Lys Asp Val Ala Thr Ala Lys Ser Glu
210 215 220
Ser Asn Asn Gln Ala Val Ser Asp Asn Lys Ser Gln Gln Thr Asn Lys
225 230 235 240
Val Thr Lys Gln Asn Glu Val His Lys Gln Gly Pro Ser Lys Asp Ser
245 250 255
Lys Ala Lys Glu Leu Pro Lys Thr
260

<210> 3
<211> 280
<212> PRT
<213> Artificial Sequence

<220>
<223> amino His-tagged construct of SEQ ID NO: 1

<400> 3
Met Gly Ser Ser His His His His His Ser Ser Gly Leu Val Pro
1 5 10 15
Arg Gly Ser His Met Gly Thr Gln Val Ser Gln Ala Thr Ser Gln Pro
20 25 30
Ile Asn Phe Gln Val Gln Lys Asp Gly Ser Ser Glu Lys Ser His Met
35 40 45
Asp Asp Tyr Met Gln His Pro Gly Lys Val Ile Lys Gln Asn Asn Lys
50 55 60
Tyr Tyr Phe Gln Thr Val Leu Asn Asn Ala Ser Phe Trp Lys Glu Tyr
65 70 75 80
Lys Phe Tyr Asn Ala Asn Asn Gln Glu Leu Ala Thr Thr Val Val Asn
85 90 95
Asp Asn Lys Lys Ala Asp Thr Arg Thr Ile Asn Val Ala Val Glu Pro
100 105 110
Gly Tyr Lys Ser Leu Thr Thr Lys Val His Ile Val Val Pro Gln Ile
115 120 125
Asn Tyr Asn His Arg Tyr Thr Thr His Leu Glu Phe Glu Lys Ala Ile
130 135 140
Pro Thr Leu Ala Asp Ala Ala Lys Pro Asn Asn Val Lys Pro Val Gln
145 150 155 160
Pro Lys Pro Ala Gln Pro Lys Thr Pro Thr Glu Gln Thr Lys Pro Val
165 170 175
Gln Pro Lys Val Glu Lys Val Lys Pro Thr Val Thr Thr Ser Lys
180 185 190
Val Glu Asp Asn His Ser Thr Lys Val Val Ser Thr Asp Thr Thr Lys
195 200 205
Asp Gln Thr Lys Thr Gln Thr Ala His Thr Val Lys Thr Ala Gln Thr
210 215 220
Ala Gln Glu Gln Asn Lys Val Gln Thr Pro Val Lys Asp Val Ala Thr
225 230 235 240
Ala Lys Ser Glu Ser Asn Asn Gln Ala Val Ser Asp Asn Lys Ser Gln
245 250 255
Gln Thr Asn Lys Val Thr Lys His Asn Glu Thr Pro Lys Gln Ala Ser
260 265 270
Lys Ala Lys Glu Leu Pro Lys Thr
275 280

<210> 4
<211> 284
<212> PRT
<213> Artificial Sequence

<220>
<223> amino His-tagged construct of SEQ ID NO: 2

<400> 4

Met	Gly	Ser	Ser	His	His	His	His	His	Ser	Ser	Gly	Leu	Val	Pro	
1				5				10				15			
Arg	Gly	Ser	His	Met	Gly	Thr	Gln	Val	Ser	Gln	Ala	Thr	Ser	Gln	Pro
				20				25				30			
Ile	Asn	Phe	Gln	Val	Gln	Lys	Asp	Gly	Ser	Ser	Glu	Lys	Ser	His	Met
				35				40				45			
Asp	Asp	Tyr	Met	Gln	His	Pro	Gly	Lys	Val	Ile	Lys	Gln	Asn	Asn	Lys
				50				55				60			
Tyr	Tyr	Phe	Gln	Ala	Val	Leu	Asn	Asn	Ala	Ser	Phe	Trp	Lys	Glu	Tyr
				65				70				75			80
Lys	Phe	Tyr	Asn	Ala	Asn	Asn	Gln	Glu	Leu	Ala	Thr	Thr	Val	Val	Asn
				85				90				95			
Asp	Asp	Lys	Lys	Ala	Asp	Thr	Arg	Thr	Ile	Asn	Val	Ala	Val	Glu	Pro
				100				105				110			
Gly	Tyr	Lys	Ser	Leu	Thr	Thr	Lys	Val	His	Ile	Val	Val	Pro	Gln	Ile
				115				120				125			
Asn	Tyr	Asn	His	Arg	Tyr	Thr	Thr	His	Leu	Glu	Phe	Glu	Lys	Ala	Ile
				130				135				140			
Pro	Thr	Leu	Ala	Asp	Ala	Ala	Lys	Pro	Asn	Asn	Val	Lys	Pro	Val	Gln
				145				150				155			160
Pro	Lys	Pro	Ala	Gln	Pro	Lys	Thr	Pro	Thr	Glu	Gln	Thr	Lys	Pro	Val
				165				170				175			
Gln	Pro	Lys	Val	Glu	Lys	Val	Lys	Pro	Ala	Val	Thr	Ala	Pro	Ser	Lys
				180				185				190			
Asn	Glu	Asn	Arg	Gln	Thr	Thr	Lys	Val	Val	Ser	Ser	Glu	Ala	Thr	Lys
				195				200				205			
Asp	Gln	Ser	Gln	Thr	Gln	Ser	Ala	Arg	Thr	Val	Lys	Thr	Thr	Gln	Thr
				210				215				220			
Ala	Gln	Asp	Gln	Asn	Lys	Val	Gln	Thr	Pro	Val	Lys	Asp	Val	Ala	Thr
				225				230				235			240
Ala	Lys	Ser	Glu	Ser	Asn	Asn	Gln	Ala	Val	Ser	Asp	Asn	Lys	Ser	Gln
				245				250				255			
Gln	Thr	Asn	Lys	Val	Thr	Lys	Gln	Asn	Glu	Val	His	Lys	Gln	Gly	Pro
				260				265				270			
Ser	Lys	Asp	Ser	Lys	Ala	Lys	Glu	Leu	Pro	Lys	Thr				
				275				280							

<210> 5

<211> 268

<212> PRT

<213> Artificial Sequence

<220>

<223> carboxyl His-tagged construct of SEQ ID NO: 1

<400> 5

Met	Gly	Thr	Gln	Val	Ser	Gln	Ala	Thr	Ser	Gln	Pro	Ile	Asn	Phe	Gln
1				5				10				15			
Val	Gln	Lys	Asp	Gly	Ser	Ser	Glu	Lys	Ser	His	Met	Asp	Asp	Tyr	Met
				20				25				30			
Gln	His	Pro	Gly	Lys	Val	Ile	Lys	Gln	Asn	Asn	Lys	Tyr	Tyr	Phe	Gln
				35				40				45			
Thr	Val	Leu	Asn	Asn	Ala	Ser	Phe	Trp	Lys	Glu	Tyr	Lys	Phe	Tyr	Asn
				50				55				60			
Ala	Asn	Asn	Gln	Glu	Leu	Ala	Thr	Thr	Val	Val	Asn	Asp	Asn	Lys	Lys
				65				70				75			80

Ala Asp Thr Arg Thr Ile Asn Val Ala Val Glu Pro Gly Tyr Lys Ser
 85 90 95
 Leu Thr Thr Lys Val His Ile Val Val Pro Gln Ile Asn Tyr Asn His
 100 105 110
 Arg Tyr Thr Thr His Leu Glu Phe Glu Lys Ala Ile Pro Thr Leu Ala
 115 120 125
 Asp Ala Ala Lys Pro Asn Asn Val Lys Pro Val Gln Pro Lys Pro Ala
 130 135 140
 Gln Pro Lys Thr Pro Thr Glu Gln Thr Lys Pro Val Gln Pro Lys Val
 145 150 155 160
 Glu Lys Val Lys Pro Thr Val Thr Thr Ser Lys Val Glu Asp Asn
 165 170 175
 His Ser Thr Lys Val Val Ser Thr Asp Thr Thr Lys Asp Gln Thr Lys
 180 185 190
 Thr Gln Thr Ala His Thr Val Lys Thr Ala Gln Thr Ala Gln Glu Gln
 195 200 205
 Asn Lys Val Gln Thr Pro Val Lys Asp Val Ala Thr Ala Lys Ser Glu
 210 215 220
 Ser Asn Asn Gln Ala Val Ser Asp Asn Lys Ser Gln Gln Thr Asn Lys
 225 230 235 240
 Val Thr Lys His Asn Glu Thr Pro Lys Gln Ala Ser Lys Ala Lys Glu
 245 250 255
 Leu Pro Lys Thr Leu Glu His His His His His His
 260 265

<210> 6
 <211> 395
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> amino His-tagged construct of SEQ ID NO: 7

<400> 6

Met His His His His His Ser Ser Gly Leu Val Pro Arg Gly Ser
 1 5 10 15
 Gly Met Lys Glu Thr Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp
 20 25 30
 Ser Pro Asp Leu Gly Thr Asp Asp Asp Asp Lys Ala Met Gly Thr Lys
 35 40 45
 His Tyr Leu Asn Ser Lys Tyr Gln Ser Glu Gln Arg Ser Ser Ala Met
 50 55 60
 Lys Lys Ile Thr Met Gly Thr Ala Ser Ile Ile Leu Gly Ser Leu Val
 65 70 75 80
 Tyr Ile Gly Ala Asp Ser Gln Gln Val Asn Ala Ala Thr Glu Ala Thr
 85 90 95
 Asn Ala Thr Asn Asn Gln Ser Thr Gln Val Ser Gln Ala Thr Ser Gln
 100 105 110
 Pro Ile Asn Phe Gln Val Gln Lys Asp Gly Ser Ser Glu Lys Ser His
 115 120 125
 Met Asp Asp Tyr Met Gln His Pro Gly Lys Val Ile Lys Gln Asn Asn
 130 135 140
 Lys Tyr Tyr Phe Gln Thr Val Leu Asn Asn Ala Ser Phe Trp Lys Glu
 145 150 155 160
 Tyr Lys Phe Tyr Asn Ala Asn Asn Gln Glu Leu Ala Thr Thr Val Val
 165 170 175

Asn	Asp	Asn	Lys	Lys	Ala	Asp	Thr	Arg	Thr	Ile	Asn	Val	Ala	Val	Glu
							180		185						190
Pro	Gly	Tyr	Lys	Ser	Leu	Thr	Thr	Lys	Val	His	Ile	Val	Val	Pro	Gln
							195		200						205
Ile	Asn	Tyr	Asn	His	Arg	Tyr	Thr	Thr	His	Leu	Glu	Phe	Glu	Lys	Ala
							210		215						220
Ile	Pro	Thr	Leu	Ala	Asp	Ala	Ala	Lys	Pro	Asn	Asn	Val	Lys	Pro	Val
							225		230						240
Gln	Pro	Lys	Pro	Ala	Gln	Pro	Lys	Thr	Pro	Thr	Glu	Gln	Thr	Lys	Pro
							245		250						255
Val	Gln	Pro	Lys	Val	Glu	Lys	Val	Lys	Pro	Thr	Val	Thr	Thr	Thr	Ser
							260		265						270
Lys	Val	Glu	Asp	Asn	His	Ser	Thr	Lys	Val	Val	Ser	Thr	Asp	Thr	Thr
							275		280						285
Lys	Asp	Gln	Thr	Lys	Thr	Gln	Thr	Ala	His	Thr	Val	Lys	Thr	Ala	Gln
							290		295						300
Thr	Ala	Gln	Glu	Gln	Asn	Lys	Val	Gln	Thr	Pro	Val	Lys	Asp	Val	Ala
							305		310						320
Thr	Ala	Lys	Ser	Glu	Ser	Asn	Asn	Gln	Ala	Val	Ser	Asp	Asn	Lys	Ser
							325		330						335
Gln	Gln	Thr	Asn	Lys	Val	Thr	Lys	His	Asn	Glu	Thr	Pro	Lys	Gln	Ala
							340		345						350
Ser	Lys	Ala	Lys	Glu	Leu	Pro	Lys	Thr	Gly	Leu	Thr	Ser	Val	Asp	Asn
							355		360						365
Phe	Ile	Ser	Thr	Val	Ala	Phe	Ala	Thr	Leu	Ala	Leu	Leu	Gly	Ser	Leu
							370		375						380
Ser	Leu	Leu	Leu	Phe	Lys	Arg	Lys	Glu	Ser	Lys					
							385		390						395

<210> 7

<211> 350

<212> PRT

<213> S. aureus

<400> 7

Met	Thr	Lys	His	Tyr	Leu	Asn	Ser	Lys	Tyr	Gln	Ser	Glu	Gln	Arg	Ser
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Ser	Ala	Met	Lys	Lys	Ile	Thr	Met	Gly	Thr	Ala	Ser	Ile	Ile	Leu	Gly
						20			25					30	
Ser	Leu	Val	Tyr	Ile	Gly	Ala	Asp	Ser	Gln	Gln	Val	Asn	Ala	Ala	Thr
						35			40					45	
Glu	Ala	Thr	Asn	Ala	Thr	Asn	Asn	Gln	Ser	Thr	Gln	Val	Ser	Gln	Ala
						50			55					60	
Thr	Ser	Gln	Pro	Ile	Asn	Phe	Gln	Val	Gln	Lys	Asp	Gly	Ser	Ser	Glu
						65			70					80	
Lys	Ser	His	Met	Asp	Asp	Tyr	Met	Gln	His	Pro	Gly	Lys	Val	Ile	Lys
						85			90					95	
Gln	Asn	Asn	Lys	Tyr	Tyr	Phe	Gln	Thr	Val	Leu	Asn	Asn	Ala	Ser	Phe
						100			105					110	
Trp	Lys	Glu	Tyr	Lys	Phe	Tyr	Asn	Ala	Asn	Asn	Gln	Glu	Leu	Ala	Thr
						115			120					125	
Thr	Val	Val	Asn	Asp	Asn	Lys	Lys	Ala	Asp	Thr	Arg	Thr	Ile	Asn	Val
						130			135					140	
Ala	Val	Glu	Pro	Gly	Tyr	Lys	Ser	Leu	Thr	Thr	Lys	Val	His	Ile	Val
						145			150					160	
Val	Pro	Gln	Ile	Asn	Tyr	Asn	His	Arg	Tyr	Thr	Thr	His	Leu	Glu	Phe

165	170	175
Glu Lys Ala Ile Pro Thr Leu Ala Asp Ala Ala Lys Pro Asn Asn Val		
180	185	190
Lys Pro Val Gln Pro Lys Pro Ala Gln Pro Lys Thr Pro Thr Glu Gln		
195	200	205
Thr Lys Pro Val Gln Pro Lys Val Glu Lys Val Lys Pro Thr Val Thr		
210	215	220
Thr Thr Ser Lys Val Glu Asp Asn His Ser Thr Lys Val Val Ser Thr		
225	230	235
Asp Thr Thr Lys Asp Gln Thr Lys Thr Gln Thr Ala His Thr Val Lys		
245	250	255
Thr Ala Gln Thr Ala Gln Glu Gln Asn Lys Val Gln Thr Pro Val Lys		
260	265	270
Asp Val Ala Thr Ala Lys Ser Glu Ser Asn Asn Gln Al		